



# The Plant Doctor's LANDSCAPE TIPS

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## ROSE BLACK SPOT

### INTRODUCTION:

Now for a thorny subject: Roses are some of the most highly favored plants in the landscape. Roses also tend to be the flower of choice for many human romantic and mating rituals. Unfortunately, roses contract a wide variety of diseases and pests. The most serious issue on roses is a fungal disease known appropriately as black spot. Black spot is caused by the fungus, *Diplocarpon rosae*. This fungal disease causes black spots that tend to instigate leaf drop and cane cankers. Roses affected by black spot produce fewer blooms and may be weakened to such an extent that they may succumb to winter injury.

### SYMPTOMS AND DISEASE CYCLE:

As the name suggests, the black spot fungus causes black spots on rose leaves (Photo 1). Spots begin small and are actually visible within 2-3 days after infection. The spots may enlarge to over one-half inch in diameter and exhibit fringed, diffuse borders. Usually a yellow halo surrounds the black spot; eventually, as many spots coalesce, the entire leaf may turn yellow and drop from the plant (Photo 2). Close examination of the spots should reveal small black spore-producing bodies (acervuli). The fungus may also infect the canes (stems) and cause lesions (aka cankers). Initially, the cankers are purple but later become black.


The fungus survives the winter in fallen leaves and in cane lesions. During the spring, spores are carried to newly emerged leaf tissue where the fungus infects foliage and canes during wet conditions. As with many if not most fungal diseases, the black spot fungus requires "free moisture" (wet tissue) to germinate and infect the stems and foliage. Once an infection occurs, the small lesion created by the infection expands and forms the larger dark spot. Within 10 to 14 days from the time of initial infection, a new crop of spores may be produced in the new lesion. This cycle can be repeated throughout the summer (Photo 3). Rain and irrigation encourage black spot development (Photo 4). The fungus and disease development are favored by temperatures in the range 65-75F (optimal); temperatures above 85F tend to inhibit disease development.

### BLACK SPOT MANAGEMENT:

Men would be in serious trouble if we gave black spot-infected roses to our significant others. So, rose black spot can be managed somewhat successfully through a multi-pronged approach. Following are some procedures that can be implemented to reduce black spot development.

**Cultural:** A thorough sanitation program in the fall may help reduce black spot development the following spring. Gather and destroy all infected foliage. Also remove infected canes and destroy. During the warm season, do not overhead irrigate roses; the fungus needs moisture on the leaves and canes to induce infections and spots. Drip irrigation or watering the soil is better. Design the landscape for good air circulation. Moderate fertilization should help plants recover from black spot infections.

**Genetic:** Where practical, plant resistant varieties of roses. Resistant or tolerant varieties will not permit the fungus to infect plants or will reduce the degree of infection and buildup of the disease on plants.

**Chemical:** Where healthy roses and blooms are desired on black spot-susceptible varieties, fungicidal sprays can help to reduce infections by the black spot fungus. The key to chemical management is to prevent infections from occurring. Fungicides may need to be applied every 7-14 days throughout the summer, particularly during wet periods. Select a broad spectrum fungicide registered for black spot on roses. Systemic fungicides tend to persist longer than contact fungicides. Because rose leaves possess a waxy surface, the addition of spreaders and stickers may help efficacy of the fungicide. 



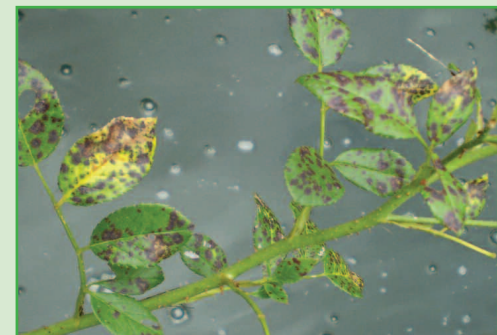
**Photo 1:** As the name suggests, *Diplocarpon rosae* causes black spots on roses. In general, the disease is the most serious problem for roses.



**Photo 2:** As the black spots enlarge and coalesce with one another, the leaves turn yellow and drop from plants. A defoliated rose plant is not a pretty sight.



**Photo 3:** The repeating stages of infection over the course of the summer have decimated these rose plants near this ornamental water feature.



**Photo 4:** The abundant black spot disease on these roses was stimulated by a wet spring, overhead irrigation and close proximity to the humid pond environment.